Cumulative Index 1987

Volume 13

April RHEUMATIC DISEASES OF CHILDHOOD, pages 1–178

August PATHOGENESIS OF CHRONIC INFLAMMATORY ARTHRITIS, pages 179–410

December IMMUNOLOGY OF THE RHEUMATIC DISEASES, pages 411–605

Note: Page numbers of issues and articles are in boldface type.

Accessory molecules, in activation of T cells, 419–422
Adjuvant arthritis, animal model for, 307–318
pathogenesis of, 296
cross-reactive autoimmunity in, 344–345
cytokines in, 537
genetic control of, 538–539
immune response in, 532–535
immunomodulation in, 535–536
mechanisms of, 538
passive transfer experiments in, 536–537
Aleutian mink disease, 251

Aleutian mink disease, 251
Amiprilose, antiarthritic effects of, 313
ANA. See Antinuclear antibodies.
Animal models, of arthritis, 307–318
Ankylosing spondylitis, HLA and, 471–475
susceptibility to, restriction fragment
length polymorphism in, 353–367
Antibodies, anti-DNA, in systemic lupus er-

ythematosus, 570-579 anti-idiotypic, rheumatoid factor production initiated by, 553-554

anti-Sm, in systemic lupus erythematosus, 570–571

polyspecificity in, 574–575 Antigen S, causing uveitis, 26–27, 29

Antigen-antibody reactions, in chronic inflammatory arthritis, 179–189 Antigens. See also Human leukocyte anti-

gen. HLA-D region, in juvenile rheumatoid ar-

HLA-D region, in juvenile rheumatoid arthritis, 1–6 in antinuclear antibody induction, 573-576

ocular, autoimmunity to, 28-29 causing uveitis, 25-26

retinal, causing uveitis, 26–27 rheumatoid factor production initiated by, 553–554

T cell activation by, 411–430
accessory molecules in, 419–422
signal transduction in, 414–419
T cell antigen receptor structure in,
411–414

viral, formation of, 242-243 Antigen-specific immunosuppression, arthritis pathogenesis and, 314-315

Antinuclear antibodies, function of, 578-579 in systemic lupus erythematosus, 37-46, 569-573

markers for, in uveitis, 22 production of, 569-581 antigen role in, 573-576

cells in, 576–577 in systemic lupus erythematosus, 569–

mechanisms of, 571–577 structure of, 577–578

Arachidonic acid, derivatives of. See Eicosanoids.

metabolism of, in joint destruction, 220 Arthritis, chronic inflammatory. See Chronic inflammatory arthritis; Rheumatoid ar-

Arthritis Impact Measurement Scales, adaptation of, to pediatric population, 136 Arthritogenic factor, 313-314 Arthrography, traction, 58
Aspirin, in Kawasaki syndrome, 13–16
Autoantibodies, in lupus, 512–515
from somatic mutation, 518–519
genetic elements associated with, 515–517
genetic restriction among, 517–518
in uveitis, 28
Autoimmunity, in arthritis pathogenesis, cross-reactive, 339–332
molecular mimiery in, 339–332
in rheumatoid arthritis, 319–338
in systemic lupus erythematosus, 37–46
HLA and, 500–501
to chromatin, 38–40
to collagen, HLA and, 490–491

in rheumatoid arthritis, 436–438, 455–458 in systemic lupus erythematosus, 434 Azathioprine, in lupus nephritis, 47–54

Autologous mixed lymphocyte reaction, 202,

to ribonucleoproteins, 41-44

B cell antigen receptor genes, in autoimmune mice, 512-519
B cells (B lymphocytes), genomic organization of, in murine lupus, 511-530 in arthritis pathogenesis, 319-338
CD5-positive, 328-335
circulating, 326-328
sensitized, 325-336

Bacteria and bacterial products, in arthritis pathogenesis, 293-306, 310, 479-480, 491

molecular mimicry and, 339-352 in uveitis, 23-24 rheumatoid factor production initiated by,

Bone, growth of. See Growth plate. rheumatoid arthritis effect on, 218 scintigraphy of, in children, 61-65

Calcitonin gene-related peptide, inflammation and, 371–374 Calpactins, in eicosanoid synthesis, 396 Cardiovascular pathology, in Kawasaki syndrome, 9–11

Cartilage, constituents of, 216–218 delineation of, with magnetic resonance imaging, 69 immune reactions in, 182–186 loss of, radiography in, 59–61 similarity of, to bacteria, arthritis pathogenesis and, 310

Cartilaginous component, of growth plate, 78-88 proliferative zone, 81–82 reserve zone, 79–80 CD2, in activation of T cells, 419–420 CD4, in activation of T cells, 420–421 CD8, in activation of T cells, 420–421 in synovium, in rheumatoid arthritis, 450 CD28, in activation of T cells, 420

hypertrophic zone, 82-88

CD4-positive cells, in synovium, in rheumatoid arthritis, 450

CD5-positive cells, in rheumatoid arthritis, 328–335 CD3/Ti complex, 415–418

CD3/Ti complex, 415–418 Cellular immunity, in chronic inflammatory arthritis, 179–180, 191–213 in uveitis, 28–29

Central nervous system, inflammation and, 375-376 Chemotherapy, in lupus nephritis, 47-54

Chemotherapy, in tupus nephritis, 41–34 Children. See also Juvenile rheumatoid arthritis; Pediatric rheumatology. chronically ill, impacts on families of,

123–131 in schools, 113–121
Title V approach and, 105–111 growth plate in, 75–99 health status assessment in, 133–140

joint disease in, radiographic evaluation of, 57-73 juvenile rheumatoid arthritis in, chronic uveitis and. 19-36

HLA antigens in, 1–6
Kashin-Beck disease in, 101–104
Kawasaki syndrome in, 7–17
systemic lupus erythematosus in, nephritis in, 47–56

nucleoprotein autoimmunity and, 37–46 Chondrocytes, coagulative necrosis of, in Kashin-Beck disease, 102 in joint destruction, 221–222

Chromatin, autoimmunity to, 38–40 Chronic illness, in children, impacts on families of, 123–131 in schools, 113–121

Title V approach and, 105-111 Chronic inflammatory arthritis. See also specific type, e.g., Rheumatoid arthritis. in Kawasaki syndrome, 9

in Kawasaki syndrome, 9
pathogenesis of, 531–544
animal models and, 307–318
autoimmunity in, 319–338
biochemical mechanisms in, 215–233
cellular immunity and, 191–213
cytokines in, 537
genetic control of, 538–539
immune response in, 532–535
immunomodulation in, 535–536
intra-articular antigen-antibody reactions in, 179–189

tions in, 179-189 lentivirus in, 235-247 lipid mediators in, 385–405
mechanisms of, 538
molecular mimicry in, 339–352
nervous system contributions in, 369–383
parvovirus in, 249–263
passive transfer experiments in, 536–537
proinflammatory microbial products in, 293–306

restriction fragment length polymorphism in, 353–365

rubella virus in, 265-274 Collagen, autoimmunity to, HLA and, 490-

491 immune reactions in, 182–186 properties of, 216–217

Collagen arthritis, animal model for, 307-318

pathogenesis of, cytokines in, 537 genetic control of, 538-539 immune response in, 532-535 immunomodulation in, 535-536 mechanisms of, 538 passive transfer experiments in, 536-537

Collagenase, in pannus, 220 in proteolysis, 228–229 in synovial fluid, 219, 223–224 types of, 223–224

Colony-stimulating factor, in synovium, in rheumatoid arthritis, 453–454

Complement mechanism, in immune complex handling, 587-589

Complete Freund's Adjuvant, causing uveitis, 24-25

Computed tomography, in children, 65-66 Corticosteroids, in uveitis, 23

Costs, in chronic illness, 124 CR1, in immune complex handling, 587–589 Cross-reactive autoimmunity, in arthritis pathogenesis, 339–332

Cross-reactive idiotypes, of rheumatoid factors, 547-552

Cyclophosphamide, in lupus nephritis, 47-54

Cytokines, abnormal regulation of, 202-204 in chronic arthritis pathogenesis, 537 in synovium, in rheumatoid arthritis, 451-456

Dendritic cells, in synovial effusion, 197 Diacylglycerol, in activation of T cells, 416– 417

Dietary fatty acids, eicosanoid synthesis and, 399-402

DNA probes, in arthritis pathogenesis, 358

Drugs, systemic lupus erythematosus induced by, HLA and, 501-502 toxicity to, HLA and, 493

Education, of chronically ill children, 108, 113–121 of pediatric rheumatologists, 161–167,

169-173 history of, 146

Effusion, synovial. See Synovial fluid. Eicosanoids, anti-inflammatory agents and, 397-399

history of, 385–386 immune cell function and, 392–393 in dietary marine lipids, 401–402 inflammation and, 388–392

leukotrienes as, 387-388 prostaglandins as, 386-387 synthesis of, 393-394

nutritional modification of, 399-401 regulation of, 394-397

thromboxanes as, 386-387

versus platelet activating factor, 393–394 Endonuclease restriction, in arthritis pathogenesis, 357–358

Endothelial cells, in pannus, 221 Endotoxins, in arthritis pathogenesis, 299–

in uveitis pathogenesis, 23–25 Epiphysis, blood supply of, 76–77 Epitope-specific mechanism (molecular mimicry), in arthritis pathogenesis, 339–352

339-352 Epstein-Barr virus, antigens to, in salivary gland, 279-282

HLA-DR antigens and, 287–288 in Sjögren's syndrome pathogenesis, 275– 292

infection by, 276–279 reactivation of, 285 replication of, 282–285

Erythema infectiosum, clinical manifestations of, 254–260

Extractable nuclear antigens, 41

Family, of chronically ill child, 123–131
Fat planes, in joint radiography, 57–58
Fatty acids, polyunsaturated, in eicosanoid synthesis, 399–402

Fc receptor mechanisms, immune complexes in, 590-591 Fibroblast collagenase, 223-224

"Fifth disease," clinical manifestations of, 254–260 Fish oil, eicosanoid synthesis and, 399–402 Foam cells, in pigmented villonodular synovitis, 221

Freund's complete adjuvant, in arthritis pathogenesis, 296

Fusarium oxysporum, in Kashin-Beck disease, 103

Gamma globulin, in Kawasaki syndrome, 13-16

Gamma immunoglobulin rheumatoid factor, in rheumatoid arthritis pathogenesis, 319-321, 323-328

Gelatinase, in synovial fluid, 219, 224 Genes, antinuclear antibody production and,

577-578 in chronic arthritis pathogenesis, 538-539 murine lupus and, 511-530

of HLA complex, 464-470

rheumatic disease and, 487-510

restriction fragment length polymorphism in, 353-367

rheumatoid factor synthesis and, 555-561 uveitis and, 20

German measles. See Rubella virus. Glucocorticoids, eicosanoid synthesis and,

Glycerol phosphate shuttle, absence of, in growth plate, 86-87

Goats, lentivirus-induced arthritis in, 235-237

Granulocytes, neutrophilic, in synovial fluid, 218

Growth plate, 75-99

cartilaginous component of, 78–88 hypertrophic zone, 82–88 proliferative zone, 81–82

reserve zone, 79-80 components of, 75-76

description of, 75

fibrocartilaginous peripheral structure of, 95, 97

metaphysis in, 88, 92-93, 95 vascular supply of, 76-78

GTP-binding proteins, in activation of T cells, 418

Handicapped children, services for, 105-111 Health status assessment, in pediatric rheumatology, 133-140, 152

Hemophilia, support services for, 109 Hemophilic synovium, structure of, 220

High endothelial venules, in synovium, in rheumatoid arthritis, 451

Hip, computed tomography of, in children,

irritable, radiography of, 58 ultrasound scanning of, in children, 67-68 Histocompatibility complex, in arthritis pathogenesis, 308

restriction fragment length polymorphism in, 353-367

in rheumatic disease, 463-485 Histones, antibodies to, 39-40

in chromatin, 38-40

History, of pediatric rheumatology, 143-147, 155-159

Human leukocyte antigen (HLA), ankylosing spondylitis and, 471–475

disease predisposition and, 470-481

Class I, 471-475 Class II, 475-481

drug toxicity and, 493

in arthritis pathogenesis, 354–357, 360–362

juvenile rheumatoid arthritis and, 6, 480 rheumatoid arthritis and, 477–480, 487– 493

Sjögren's syndrome and, 480, 502 systemic lupus erythematosus and, 480– 481, 495–502

Human leukocyte antigen (HLA) complex, genes of, function of, 464–470 structure of, 464–470

rheumatic diseases and, 463-485

Humoral immunity, in chronic inflammatory arthritis, 179-186

Hydralazine, systemic lupus erythematosus induced by, 501–502 antibodies in, 40

Hypergammaglobulinemia, in lupus, 512-515

Hypersensitivity, immediate, neuromodulation of, 371

Hypertrophic zone, of growth plate, 82-88

Immune complexes. See also Human leukocute antigen (HLA) complex.

as phlogistic agents, 583-584

characterization of, 584-586 damage from, 583-584

defective, handling of, 591-592

handling of, complement mechanisms in, 587-589

Fc receptor mechanisms in, 590-591 model system for, 586-587

in rheumatic diseases, 583-596 models of, in uveitis, 27

physicochemical properties of, 584–587

Immune response. See also T cells. in cartilage, 182–186

in chronic arthritis pathogenesis, 532–535 Immunity. See also Autoimmunity.

cellular, in chronic inflammatory arthritis, 179–180, 191–213

in uveitis, 28-29

humoral, in chronic inflammatory arthritis, 179-186 Immunization, for rubella virus, arthritis in, 267–269

Immunoglobulin G, predictive value of, in lupus, 514

Immunoglobulins, abnormal production of, in lupus, 512–515

genomic organization of, in autoimmune mice, 512-515

high levels of, in uveitis, 28 in cartilage, 182-186

rheumatoid factors and, 547-553

synthesis of, by rheumatoid B cells, 323-324 in synovial membrane, 180-182

Immunology. See also Genes; Immune complexes; Lymphocytes; T cells. abnormalities of, in Kawasaki syndrome,

11-12

Immunomodulation, in chronic arthritis pathogenesis, 535-536

Immunosuppression, antigen-specific, arthritis pathogenesis and, 314-315

Immunosuppressive drugs, in lupus nephritis, in children, 47–56
Indian mound-builders, osteoarthritis in,

143-144

Indium scanning, 311
Infection, in arthritis pathogenesis, molecular mimicry in, 339–352

viral. See Virus(es). Inflammation, in arthritis pathogenesis, 369– 377

lipid mediators in, 385-405

Inflammatory disease, bone scintigraphy in, 64

Inositol 1,4,5-triphosphate, in activation of T cells, 416–417

Interferon, in rheumatoid arthritis, in synovium, 451-457

T cells and, 439

in rheumatoid synovitis, 202-203

Interleukin, in rheumatoid synovitis, 192, 202-207

Interleukin-1, in activation of T cells, 421-422

in synovium, in rheumatoid arthritis, 451–456

Interleukin-2, in activation of T cells, 422-423

Interleukin-3-like activity, in synovium, in rheumatoid arthritis, 452-456

Interphalangeal joint swelling, in Kashin-Beck disease, 101–102

Iron, in arthritis pathogenesis, 311–312 Irradiation, total lymphoid, in rheumatoid arthritis, 439

in systemic lupus erythematosus, 434-435

Joint destruction, biochemical mechanisms of, 215-233

effector cells in, 218-222 proteinases in, 222-225

proteolytic process in, 225-229 substrates involved in, 215-218

Juvenile rheumatoid arthritis, etiology of, 19–36

HLA and, 1-6, 480, 493-495

long-term outcome in, 151-154

magnetic resonance imaging in, 69-71 pathogenesis of, 19-36

pauciarticular onset of, HLA and, 494-495

polyarticular onset of, HLA and, 495 radionuclide scintigraphy in, 62, 64 systemic onset of, HLA and, 495

Kashin-Beck disease, 101-104

Kawasaki syndrome, 7-17

arthritis in, 9

cardiovascular pathology in, 9-11 clinical features of, 8

immunoglobulin treatment in, 13-16

immunologic abnormalities in, 11-12 Keratoconjunctiva sicca. See Sjögren's syndrome.

Killer cells, in synovial effusion, 197-198 in synovium, 201-202

Knee, magnetic resonance imaging of, 69–70

radiography of, in children, 60-61 scintigraphy of, 62

La nucleoprotein, autoimmunity to, 42–44 Lens-induced uveitis, 27 Lentivirus, in arthritis pathogenesis, 235–

947

247
antigen formation and, 242–243
characteristics of, 239
clinical aspects of, 236–237
pathology of, 237–239
persistence mechanisms for, 244
replication of, 239–240, 241–242
synovial fluid cells in, 243–244
transmission of, 240–241

Leukotrienes, anti-inflammatory effects of, 391–392

biochemistry of, 387-388 immune cell function and, 393

Lining cells, synovial, 198-199

Lipid mediators, in arthritis pathogenesis,

Lipomodulins, in eicosanoid synthesis, 396

Lipopolysaccharides, causing uveitis, 24 in synovium, in rheumatoid arthritis, 451 Lupus, murine, genetic aspects of, 511-530 Lupus nephritis, immune complexes with, 585

in children, immunosuppressive drugs in, 47-56

Lyme disease, arthritis in, 269 Lymphatic system, irradiation of, in rheumatoid arthritis, 439

in systemic lupus erythematosus, 434–435

Lymphocytes. See also *B cells*; *T cells*. activation of, 411–430 autologous reaction of, 202, 206–207 immune functions of, 204–207 in rheumatoid arthritis pathogenesis, 319–338

in subsynovium, 199–202
in synovial fluid, 193–196
in lentivirus-induced arthritis, 243
in synovial membrane, 180–182
in synovium, in rheumatoid arthritis, 450
neuromodulation of, 371–372
regulators of, disturbances of, 431–445
stimulation of, by muramyl peptides, 294–
296

Lymphokines, abnormal regulation of, 202– 204 immune functions of, 204–206 Lymphotoxin, in rheumatoid synovitis, 203

Macrophages, in synovial fluid, 196-197

in lentivirus-induced arthritis, 243-244

muramyl peptides and, 294-295 viral antigen formation by, 242-243 Magnetic resonance imaging, in children, 69-71

Mainstreaming, of disabled children, 108
Major histocompatibility complex, in arthritis pathogenesis, 308
restriction fragment length polymor-

phism in, 353–367

Marine lipids, eicosanoid synthesis and.

399-402

Mast cell growth factor, in synovium, in rheumatoid arthritis, 453

Mast cells, in arthritis pathogenesis, 314 in pannus, 221

in synovium, 201

in rheumatoid arthritis, 450 Maternal and Child Health Programs, 105– 111

Mental retardation, services for, 107 Metabolism, in growth plate, 85–86 Metalloproteinase, in synovial fluid, 219,

proteolysis regulation by, 225-229

Metaphysis, blood supply of, 77–78 in growth plate, 88, 92–93, 95 Methotrexate, arthritis pathogenesis and, 309

Methylprednisolone, in uveitis, 23 Microorganisms and products, in arthritis

pathogenesis, 293-306 molecular mimicry in, 339-352 Molecular mimicry, in arthritis pathogen-

Molecular mimicry, in arthritis pathogenesis, 339–352

in rheumatic disease pathogenesis, 474-475

Monocytes, in synovial fluid, 196-197 in lentivirus-induced arthritis, 243 Monokines, abnormal regulation of, 202-204 Morbidity, pain contributing to, 377-378 Morphology of synovium, versus arthritis

type, 310-311 Muramyl peptide, in arthritis pathogenesis, 294-297

Mutation, autoantibodies produced by, in lupus, 518-519

Mycobacterium tuberculosis antigen, in rheumatoid arthritis, 479–480, 491 Mycoplasma arthritidis, causing uveitis, 25 Mycoplasma products, in arthritis pathogenesis, 300

Mycotoxins, in Kashin-Beck disease, 103

Natural killer cells, in synovium, 197-198, 201-202

in rheumatoid arthritis, 450–451 Necrosis, coagulative, in Kashin-Beck dis-

ease, 102 Nephritis, lupus, immune complexes with,

in children, immunosuppressive drugs in, 47-56

Nervous system, arthritis pathogenesis and, 369-383

Neurokinins, inflammation and, 374 Neurons, inflammation and, sympathetic ef-, ferent, 375

unmyelinated afferent, 370-375

Neutrophil collagenase, 223–224 Neutrophilic granulocytes, in synovial fluid, 218–219

Nonsteroidal anti-inflammatory drugs, biochemical action of, 397–399 in uveitis, 23

Nucleoproteins, autoimmunity to, in systemic lupus erythematosus, 37–46 Nucleosome, 38

Ocular antigens, autoimmunity to, 28–29 causing uveitis, 27, 29
Ossification groove, in growth plate, 95–96

Pain, morbidity and, 377-378

Osteoarthritis, in Indian mound-builders, 143-144 in Kashin-Beck disease, 102 Osteomyelitis, scintigraphy of, 62, 64 Oxidation, in joint destruction, 219

Pannus, immunoglobulin removal by, 184 structure of, 220-221 Paralysis, joint inflammation and, 376 Parvovirus, animal, 249-251 arthropathy and, 249-263 human, B19, 252-260 RA-1, 260-261 incidence of, 252-254 manifestations of, 254-260 structure of, 249, 252 Passive transfer experiments, in chronic arthritis pathogenesis, 536-537 Pediatric rheumatology. See also Children. as academic specialty, 161-167 family impact survey in, 126-131 fellowship training requirements for, 169health status assessment in, 133-140 history of, 143-147, 155-159 personal perspective of, 155-159 reflections on, 155-159

services for, 109-111
specialists in, 146
Peptidoglycan, causing uveitis, 24
in arthritis pathogenesis, 294-297
Peptidoglycan-polysaccharide complex, in
arthritis pathogenesis, 297-299
Perichondrial ring, in growth plate, 95-96
Phosphorylation, of receptors, in T cell activation, 418-419
Pigmented villonodular synovitis, cells in,

regional centers for, 110, 146

220-221

Plasma cells, in synovium, in rheumatoid arthritis, 450

Platelet activating factor, versus eicosanoids, 393-394

Polycyclophosphamide, in lupus nephritis, 47-54

Polyspecificity, in antibodies, 574–575 Pouch, synovial, ultrasound scanning of, in children, 68

Prednisone, in lupus nephritis, 47–54 Probes, DNA, in arthritis pathogenesis, 358 Procainamide-induced lupus, 40, 501–502 Procollagenase, in proteolysis, 226–227 Proinflammatory microbial products, in ar-

thritis pathogenesis, 293-306 Proliferative zone, of growth plate, 81-82 Prostaglandins, anti-inflammatory effects of, 388-392 arthritis pathogenesis and, 312–313
biochemistry of, 386–387
immune cell function and, 392–393
synthesis of, dietary polyunsaturated acids
and, 399–402
Protein kinase C, in activation of T cells,
417
Proteinase. See also Metalloproteinase.
in joint destruction, 219, 222–225
inhibition of, 229
Proteoglycan, in cartilage, 183
properties of, 217–218
Proteoglycanase, in joint destruction, 225
Proteolysis, in arthritis, 225–229
Proteolysis, in arthritis, 225–229
Psychosocial problems, in chronically ill

Quality of life, in pediatric patients, 134

children, 115

Radiology, in pediatric joint disease, 57-73 Radionuclide scintigraphy, in children, 61-65

Rash, in parvovirus infection, 255-257 in rubella, 267-268

Reactive arthritis pathogenesis, cross-reactive autoimmunity in, 347-350 Receptors, Fc, immune complexes and,

590-591 T cell antigen. See T cell antigen recep-

Reflex neurogenic inflammation, in arthritis pathogenesis, 370

Reflex sympathetic dystrophy, inflammation and, 376

Reserve zone, of growth plate, 79-80 Restriction endonuclease, in arthritis pathogenesis, 357-358

Restriction fragment length polymorphism, in arthritis pathogenesis, 353–367 Retinal antigens, causing uveitis, 26–27

Rheumatic disease, T cell regulator disturbances In, 431–445 Rheumatic fever pathogenesis, cross-reactive

autoimmunity in, 346-347 Rheumatoid arthritis, antigen-antibody reactions in, 179-186

autoimmunity in, 319–338 autologous mixed lymphocyte reaction in, 436–437

430–437
cellular immunity in, 191–213
familial, Hi.A and, 490
histopathology of, at onset, 447–448
HI.A and, 477–480, 487–493
immune complexes in, 589
joint destruction in, biochemical mechanisms of, 215–233

Rheumatoid arthritis (Continued) parvovirus isolation in, 260 pathogenesis of, 447-461 intra-articular antigen-antibody reactions in, 179-189 nervous system and, 369-383 Sjögren's syndrome and, 289-290 susceptibility to, restriction fragment length polymorphism in, 353-367 synovium in, cell types in, 449-451 T cell immunoregulation in, 435-439 Rheumatoid factor, 545-568 binding properties of, 546 cellular origin of, 555 idiotypes of, 547-552 immunochemical characteristics of, 546in arthritis pathogenesis, 308, 319-321, 323 - 328in healthy persons, 553 incidence of, 552-553 structure of, 547-552 synthesis of, 553-554 by rheumatoid B cells, 323-325 genetic basis of, 555-561 Ribonucleoproteins, autoimmunity to, 41-44 Ro nucleoprotein, autoimmunity to, 42-44 Rubella virus, clinical manifestations of,

266-267 congenital anomalies from, 267 immunization for, arthritis in, 267-269 in arthritis pathogenesis, 265-274 structure of, 265-266

Sacroiliac joint, radiography of, in children, 65 - 66Salivary glands, Epstein-Barr virus in, 275-290

School, chronically ill children and, 113-121 health services in, 118-120

Scintigraphy, radionuclide, in children, 61-Second messenger system, T cell antigen

receptor and, 414-417 Selenium deficiency, in Kashin-Beck dis-

ease, 103

Serine proteinase, in joint destruction, 225 Sheep, lentivirus-induced arthritis in, 235-

Sheppard-Towner Act of 1929, chronically ill children and, 106

Sjögren's syndrome, HLA and, 480, 502 pathogenesis of, Epstein-Barr virus in, 275-292

Slow virus. See Lentivirus. Sm nucleoprotein, autoimmunity to, 42-44 Social Security Act of 1935, Title V, chronically ill children and, 105-111

Somatic mutation, autoantibodies produced by, in lupus, 518-519 Somatostatin, inflammation and, 371-372 Spine, juvenile rheumatoid arthritis of, magnetic resonance imaging of, 69 Spondyloarthropathy, HLA and, 471-475 Spontaneous arthritis, 308 Still's disease, HLA and, 495 Streptococcal cell wall arthritis, animal model for, 307-318 Stress, arthritis pathogenesis and, 313 inflammation and, 376-377 Substance P. inflammation and, 370-375 Subsynovium, cells in, 199-202 Suppressor T cells, in systemic lupus ervthematosus, 433-434 Sympathetic efferent neurons, inflammation and, 375 Synovial fluid, cells in, 193-202, 218-219 in lentivirus-induced arthritis, 243-244 Synoviocyte culture system, 307-318 Synovium, chronic inflammation of, cellular immunity in, 191-213 in rheumatoid arthritis, cell types in, 449immunoglobulin synthesis in, 180-182 T cells in, 437-439 in rheumatoid disease, microscopy of, 321-323 lining cells in, 198-199 Systemic lupus erythematosus. See also Lupus, murine. antinuclear antibody in, 569-573 autoantibodies in, HLA and, 497-498 autologous mixed lymphocyte reaction in, autoimmune gene in. HLA and, 500-501 complement component deficiencies in, HLA and, 499-500 drug-induced, HLA and, 501-502 familial, HLA and, 495-496 HLA and, 480-481, 495-502 immune complexes in, 583, 589, 591-592 in children, autoimmunity in, 37-46 lymphoid radiation in, 434-435 neonatal, HLA and, 498-499 subacute cutaneous, HLA and, 498-499

T4 (CD4), in activation of T cells, 420-421 T8 (CD4), in activation of T cells, 420-421 T11 (CD2), in activation of T cells, 419-420 T cell antigen receptors, genes of, in autoimmune mice, 519-526 Ca and CB, 519-522 Va, 522-523 VB, 522-526

T cells in, 432-435

second messenger systems coupled to. 414-417

signal transduction by, 414-419 structure of, 411-414

T cells, activation of, 411-430

accessory molecules in, 419-422 distal events in, 422-423

functions of, in rheumatoid arthritis, 436-437

genomic organization of, in lupus, 511-

in chronic arthritis pathogenesis, 534-537 in juvenile rheumatoid arthritis, 1-6

in Kawasaki syndrome, 12

in rheumatoid arthritis, in synovium, 437-439

in uveitis, 28

regulators of, disturbances of, 431-445 subsets of, 432

in rheumatoid arthritis, 435-439 T lymphocytes. See T cells.

Tachykinin, inflammation and, 374 Technetium-99m hydroxymethylene diphosphonate, in scintigraphy, in children,

Tetracycline, antiarthritic effects of, 313 Thromboxane, biochemistry of, 386-387

Title V. chronically ill children and, 105-

Toxicity, to immunosuppressive drugs, in lupus nephritis, 53-54 Tp44 (CD28), in activation of T cells, 420

Tumor necrosis factor, in rheumatoid synovitis, 204, 451

U1 ribonucleoprotein, autoimmunity to, 42-

Ultrasound scanning, in children, 67-68 Uveitis, in juvenile rheumatoid arthritis, 19-36

animal models in, 23-27 bacterial products in, 25-26, 28-29 clinical characteristics of, 20-23 histopathology of, 22-23 immune complex models in, 27 lens-induced, 27 ocular antigens in, 25-26, 28-29 pathology of, 22

population at risk for, 20 retinal antigens in, 26-27

treatment of, 23 viruses in. 25

visual outcome of, 21-22

Vasculitis, coronary, in Kawasaki syndrome, 13-16

Vasoactive intestinal peptide, inflammation and, 371-372

Virus(es), in arthritis pathogenesis, lentivirus, 235-247

parvovirus, 249-263 rubella, 265-274

in uveitis, 25 rheumatoid factor production initiated by, 554

World Health Organization, health definition of, 134

Wrist radiography, in children, 60-61